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ABSTRACT

This presentation describes the use of portfolio assessment in a teacher education course "Teaching Reading in the Content Areas," which is required for secondary certification. Portfolio assessment provides students with opportunities to determine which skills are most congruent with their respective areas. The main body of this paper describes a teacher educator's experiences with portfolio assessment in each of four semesters. Data sources included the teacher educator's reflective journal, student journals, notes and observations made during class discussions and activities, notes from portfolio exit conferences, discussions with colleagues, sample portfolios, and course materials related to portfolio development. Lessons were learned and refinements made in each of the four semesters. Among the items found to be helpful for a teacher initiating portfolio assessment were: clearly identify purpose(s); involve students in the process; schedule work-in-progress and information sessions; provide written descriptions, explanations, and expectations; display exemplar portfolios; link process/product to overall program goals; conduct exit conferences; systematically monitor impact on student learning and modify accordingly; and, if possible, work with a colleague to initiate or refine use of portfolio assessment. Appendixes provide: samples of a formative assessment (midterm portfolio); a final portfolio; assessment criteria; a portfolio scoring rubric; discussion of portfolios as progress and product: a construction metaphor; and portfolio summary data including categories of evidence such as growth and development, and change in perspective or belief. (Contains 21 references.) (LL)

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ED 367 608

# PORTFOLIO ASSESSMENT AND SECONDARY METHODS CLASSES: WHAT HAPPENS WHEN THE TWAIN MEET?

by

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# PORTFOLIO ASSESSMENT AND SECONDARY METHODS CLASSES: WHAT HAPPENS WHEN THE TWAIN MEET?

## Introduction and Overview

My dissatisfaction with traditional forms of assessment has deep roots. As a former Chapter I reading teacher in the 1970's I detected disparity between standardized test scores and classroom performance. As a middle grades social studies teacher I noticed differences between test scores, homework assignments, and what students were actually able to apply in projects or simulations. And as a teacher educator I quickly realized that "objective" tests were incapable of measuring the types and ranges of knowledge critical for assessing preservice teacher development and performance.

Although I added concept mapping to my instructional and assessment repertoire in the late 1980's, I continued to search for supplementary procedures that would teach as well as measure or document understanding. Schon (1987), Tabachnich and Zeichner (1991), and others convinced me that reflection positively impacts teacher development. Consequently, learning logs or journals were added to my instructional/assessment repertoire in the early 1990's. By Fall 1992 when I accepted a position at Indiana State University, I had also determined that portfolio assessment was worth a try. I agreed with Vito Perrone who noted that we need "different assessments that get closer to student learning and are related to performance and understanding" (1991, p. viii) and with Albert Einstein who reportedly posted on his office wall, "Not everything that counts can be counted and not everything that can be counted counts."

My primary teaching responsibility is CIMT 368 - Teaching Reading in the Content Areas. It is required for secondary certification and includes students from all subject areas (i.e. English, Math, Social Studies, Science, Music, Art, Physical Education, Foreign Language, Technology Education, Health, Special Education, etc.). Most students are in their junior year; all have completed an Introduction to Teaching course and a course in Educational Psychology, but constants end there. As a result, course concepts and methods have varying degrees of applicability depending on subject area. This was a primary reason for experimenting with portfolio assessment - I thought it would provide students with opportunities to determine which reading, writing, listening, speaking, and thinking for learning strategies were most congruent with their respective areas. In fact, we begin each semester by informally renaming the course "Teaching and Learning in the Content Areas" to broaden the scope beyond reading and to set the stage for alternative pedagogy as well as related assessment issues, one of which is portfolio assessment.

While I continued my search for more appropriate ways to promote and assess student learning, use of portfolios continued to gain in popularity. For example, seminal work of the four-year Teacher Assessment Project (TAP) provides cogent insights into the types of assessments that might document the complexities of teaching and learning to teach (Collins, 1991). Although separate from the National Board on Professional Teaching Standards (NBPTS), it purposed to provide research on assessment procedures that would inform the Board's work (Haertel, 1991).

TAP portfolio field test results and other research indicate that the process of portfolio development tends to promote reflection about teaching, particularly as it relates to instructional methods (Varvus & Collins, 1991, Wolf, 1991a & b). Portfolios can also provide valuable insights into the professional development of preservice students (Stone, 1993). Consequently, use of portfolios in a class which hopes to promote reflection and decision-making about the most appropriate instructional methods to select from the array of content area literacy/learning teaching strategies (CAL/LTS) available seemed natural and appropriate.

The rest of this paper will describe refinement of use of portfolios from Fall 1992 through Fall 1993. It will close with a summary and discussion of findings and offer suggestions for portfolio assessment in methods classes and teacher preparation programs. Data sources include my reflective journal, student journals, notes and observations made during class discussions and activities, notes from portfolio exit conferences, discussions with colleagues, sample portfolios, and course materials related to portfolio development.

## A Portfolio Assessment Refinement Journey: Fall 1992 - Fall 1993

### Fall 1992

Fall semester 1992 marked the beginning of our portfolio experience. It was one of four projects or experiences upon which student evaluation was based. Additional criteria were: 1) early field experience log/inquiry project, 2) oral and written participation (learning log/journal and discussion), and 3) concept maps (Rafferty & Fleschner, 1993). (See Appendix C for details.)

Rather than tell students exactly what to put into their portfolios, we spent class time constructing lists of potential items. During week 3, my reflective journal entry read:

> It took valuable class time to negotiate a shared understanding of portfolios. Doesn't seem to be much resistance yet - maybe because no one is working on it? It was wise for me to withhold my list of potential things to include - most students noticed the similarities between their lists and mine and remarked on the ownership that resulted from their participating in the activity.

Several weeks later we held a "Portfolio Show and Tell." Students were reminded that it was their responsibility to "prove, demonstrate, or show WHAT they were learning and HOW they know it." Although students told me that the session had helped them by: 1) assuring them of being on the right track, 2) providing tips on how to organize, and 3) giving them additional packaging ideas, within days there were requests for more structure for the process.

At the time, the request seemed reasonable - this was a new experience for all. Consequently, I constructed a checklist entitled "Formative Assessment - Midterm Portfolio" (See Appendix A). Note that the rating scale encouraged student reflection on choices - whether items were included or not. Unfortunately selection did not occur, as indicated in my week 8 journal entry.

> The use of a checklist compelled students to include everything! There was not much reflection on items included either. What needs to be done to encourage selective inclusions rather than a notebook approach?

Many of my questions and dilemmas would remain throughout the semester. My inexperience with directing the process and time constraints precluded any refinements during Fall 1992. As a result, when students requested a revised checklist for the final portfolio, I complied (See Appendix B). Nonetheless, my end-of-semester journal

entry captures both my dissatisfaction and on-going search for a more viable approach.

> Of the three experiments this semester, this is the one with which I am least satisfied. There has to be a way to identify more important or minimal standard items to include, but then that seems contrary to the philosophy of portfolios. I'll need to do some additional reading and thinking about this one. A major problem was lack of reflection/evidence of understanding of the material. Some included items without documenting or verifying their importance or relationship to the course. This portfolio component will require restructuring.

Although I was dissatisfied with this initial attempt, our experience with portfolios underscored the importance of using multiple criteria for student evaluation. In other words, because final grades were not based exclusively on the portfolio there was not as much pressure for initial perfection. In addition, this experience also attests to the power and value of teacher reflection. I was determined to improve the process.

## Spring 1993

Between Fall 1992 and Spring 1993 I read about the importance of purpose in assessment selection and design and use of rubrics for more reliable scoring (Herman, Aschbacher, & Winters, 1992). This resulted in an assessment criteria handout (See Appendix C), a series of class work sessions that yielded a portfolio scoring rubric, and portfolio exit conferences at semester's end. An additional change documented in my journal during week 2 was that I was:

> spending more time asking questions and having students think about how to be working on the portfolio (earlier in the semester).

Following the pattern established Fall 1992, we held a "Portfolio Show and Tell" session during week 4. However, rather than using a midterm checklist, we had several rounds of portfolio exchanges to

note types of items included and various organizational structures. We also spent considerable class time drafting scoring rubric criteria (See Appendix D). Students noted that it was difficult to construct the rubric descriptions because 1) it was hard to find words to describe the grade categories and 2) that student and teacher perceptions may not be congruent. Others noted that they were "uncomfortable with the fact that this kind of evaluation would result in different inclusions (in the portfolio) and potential for subjective evaluation." Despite a course emphasis on individual differences, students obviously struggled with application to themselves as learners.

As we continued work on scoring rubrics over the next few weeks an inevitable discussion item was student concern over "not knowing where they stand." Probing revealed a focus on grades rather than concern with their levels of learning/understanding. Apparently students are so acculturated into the testing/grading paradigm that it is most difficult to engender self-evaluation tendencies and abilities. Of course, this is likely related to Lortie's (1975) notion of "teachers teaching the way they were taught," but it also represents a particularly challenging scenario for those of us implementing portfolio assessment in individual courses without overall program support. (This challenge continues into the current semester - Spring 1994 - but did begin to shift during Fall 1993, as will be addressed in subsequent sections.)

Eventually, however, we finalized the rubric criteria which students used to prepare final portfolios (See Appendix D). During

individual exit conferences at semester's end, we explore the following questions:

1) How has your thinking about teaching and learning changed, grown, and/or developed this semester? 2) How does your portfolio document this? 3) Using the scoring rubric, what grade do you deserve and why?

Analysis of notes taken during exit conferences indicated issues/concerns as well as benefits/advantages regarding the portfolio as a process and product.

| Issues/Concerns | Benefits/Advantages |
|---|---|
| -Organization skills | -Valuable future resource |
| -Time management | -Constructed for personal use |
| -Time constraints | -Connections to major/minor |
| -Could have done more | |
| -Reactions/Reflections | |

Students who claimed they "worked over time" or used time management to complete the portfolio tended to do better in all respects. Nonetheless, even these students had difficulty saying they deserved an "A." Many, however, seemed to need more structure or scaffolding to avoid results largely attributable to procrastination or lack of experience with an activity of this nature. To my dismay, many portfolios still looked like notebooks - they contained nearly everything we had done rather than a collection of best work or items specifically related to students' subject areas. Of course this may be attributable to the scoring rubric which emphasized both quantity and quality using language like "irrefutable" and "comprehensive."

Despite these issues, we achieved much consensus on final grades for the portfolios. For a first attempt with more specific purposes and scoring criteria, I was more satisfied than the previous semester as indicated in my final journal entry.

I think the exit conferences and information on purposes and scoring rubric were helpful. A few students thought this would have been more helpful at midterm, but many agreed it was necessary at the end. I averaged about 80% agreement with students' self-assessment and feel that the rubric helped us all know what we were trying to accomplish. I do, however, plan to help students focus on including only those things that epitomize what they have learned about teaching and learning that impacts their respective subject areas. In addition, I may want to consider identifying certain kinds of entries to include. All in all I was infinitely more satisfied this semester than last, primarily because I did not specifically dictate entries via a checklist. The result were portfolios that belonged more to the students than me.

Summer 1993

Summer session courses have a two-hour, Monday-Friday, five-week structure, quite different from the regular sixteen-week semester. As a result, I had concerns about building a shared understanding in a compressed time frame. Daily meetings for a two-hour block proved beneficial, however. As students noted, "There isn't time to forget." Summer section students used the scoring rubric from Spring 1993 as a start, but opted to flesh out only the "A" category (See Appendix E). Note that the emphasis is on QUALITY and BEST WORK. During discussions before midterm (Day 10) I emphasized that a portfolio is NOT a notebook which contains everything but rather a collection of carefully selected items, tagged with entry slips which evince what students have learned and expect to use in the future and WHY. An additional criteria would be an introduction to provide the reader with a "lens through which to view entries and provide a rationale for inclusions, organization, etc."

Sensing that clarification was still necessary, a few days after midterm (Day 14) I verbally explained "Portfolios as Process and Product: A Construction Metaphor." Appendix F is the written handout

that I created for use Fall 1993. Summer students had to endure an oral explanation and crudely drawn figure as I "talked them through" the idea, which resulted from late Spring/early Summer readings (Cole, 1992; Belanoff & Dickson, 1991). Nonetheless, it was my perception that this activity did clarify both process and product issues for students.

Once again we conducted portfolio exit conferences which probed three questions/issues, modified slightly from Spring 1993: 1) Think about where you were at beginning of the term in regard to your ideas about teaching and learning and where you are now. What happened/Why? 2) Think about your portfolio as both a process and a product. What process did you use to create the final product? 3) Using the scoring criteria we created, what grade do you deserve/Why?

Analysis of exit conference notes revealed a shift away from some issues/concerns identified by Spring 1993 students and an increase in the range of perceived benefits/advantages.

| Issues/Concerns | Benefits/Advantages |
|---|---|
| -Logical organization | -Quality/Best work |
| -Time constraints | -Pushed self to deserve grade |
| -Inclusion decisions | -Learned much |
| | -Personal use and applications |
| | -Future resource |
| | -Documents progress |
| | -Forced multiple interactions |

Apparently class discussions had more precisely conveyed the nature and intent of portfolios as process and product. Most were "smaller" and contained selections rather than the notebook approach of previous students. Once again we achieved 80% congruence on portfolio grades.

Nonetheless, in my final journal entry Summer 1993, I identified the following "persistent and troubling questions":

> 1) Some students are still concerned about "not knowing where we stand." Does this mean according to a grade OR not knowing what they understand?
>
> 2) How can I better describe/explain both the process and product aspects of portfolios in such a way to help students gain a better understanding of what it entails?
>
> 3) How can I build in/help students acquire motivation and abilities necessary to think critically, self-evaluate, reflect, analyze, etc.?
>
> 4) How can I help students break through and emerge beyond the following mentalities? a) one-page (or less) reflective entries, b) doing superficial/just enough work, c) unwillingness to take risks, d) one right answer, e) inability or unwillingness to make connections, f) grades more important that what is learned.

My search for answers and alternatives yielded additional refinements for Fall 1993.

## Fall 1993

As during previous semesters, portfolios were introduced early and students generated ideas about potential items to include prior to seeing my ideas. I devoted valuable class time to helping students understand both the nature and intent of portfolios. One new tool for Fall 1993, distributed during Week 2, was a three-page handout entitled "Portfolios as Process and Product: A Construction Metaphor" (See Appendix F), which provided a detailed description about things to attend to throughout the semester in order to have an array of quality items to ensure a quality final product. Finally students would have a written reference about the portfolio as process and product.

Before midterm (Week 7), students received another handout, "Portfolios - The Process/Product Continues" (See Appendix G), which further described a portfolio as "a collection of evidence with a purpose." This handout, influenced by additional readings and dialogues with a new colleague who was also piloting portfolio assessment, identified several categories of evidence that items could document or demonstrate. The notion of categories of evidence, modified from Collins and Dana (1993), provided a focus or framework item selection. In addition, it articulated two questions that each entry slip accompanying a portfolio item should clarify.

During our midterm "Portfolio Show and Tell" session (Week 9), students critiqued each other's entry slips and also received feedback from the instructor. Besides seeing various organizational structures, students also witnessed a range of potential items to include and how their peers had written entry slips. Most students reflected in learning logs/journals that this was a very valuable class session.

After midterm (Week 9), we began constructing portfolio scoring criteria using both Spring 1993 and Summer 1993 criteria as a starting point. Fall 1993 students also chose to flesh out only the "A" category (See Appendix H). Note that information is also included about issues of quantity. Upon my colleague's recommendation, I had recently read an article that modified Haertel's (1990) notion of the "value-added principle" (Collins and Dana, 1993) and included it to assist students in the selection process and to help them know "when enough is enough." Judging from final Fall 1993 portfolios these

modifications and combination of activities provided an appropriate amount of flexibility and structure for the portfolio process/product.

Portfolio exit conferences (Week 16) focused on the same three questions used during Summer 1993. Although some of the same issues/concerns emerged, students were more precise in articulating the nature of their concerns. Many more also lauded the portfolio process/product despite concerns, primarily because it afforded them the opportunity to guide their own learning and organize a document that truly reflected and charted their unique progress. This was particularly true for the few students who were also experiencing portfolios in my colleague's class.

| Issues/Concerns | Benefits/Advantages |
|---|---|
| -Time constraints (Process and product time consuming) | -Tells story of learning (Growth and development) |
| -Importance of organization/ time management (Constant pressure) | -Proud of/Pleased with product |
| -Need to see examples (Entry slips & final portfolios) | -Contains items for future use (Student teaching, employment, future additions) |
| | -Learning continuous (Multiple interactions/reflections) |
| | -Individualized/Personalized learning (All different) |

This time there was 81% agreement between student self-evaluation and my assessment of their portfolios. For the first time we also had specific categories of evidence which allowed me to quantify selections made. Appendix I contains more detailed information identifying individual and subject area entries in each category. What follows is a summary highlighting my observations about particular trends.

We used six different categories of evidence for portfolio inclusions: 1) Growth and development, 2) Change in perspective or

belief (accommodation), 3) Application/Modification of CAL/LTS, 4) Connections between 368 and other classes/experiences, 5) Confirmation or reinforcement of existing belief or perspective (assimilation), and 6) School of Education Knowledge Base. Although students were equipped with the "value-added principle" (See Appendix H), I did not suggest or require particular numbers of entries for the portfolio. Therefore I was interested to see how students would manage this component. There was amazing consistency - total number of entries ranged from 9-26, with an average of 15.

Inclusions within categories ranged from 0-9, indicating much individual selection. By that I mean the existence of a category did not compell students to create items if it was not deemed appropriate. (See Appendix I for a quantitative summary of inclusions by subject area major.) This was particularly true for category six, School of Education Knowledge Base which was added as a possibility late in the semester. I am currently re-evaluating its viability as a separate category and am considering at least two possibilities: 1) its merger with the portfolio's introduction or 2) having it serve as a foundation for a conclusion to the portfolio. As we move toward more program congruence, it is vital to provide our students with opportunities to connect their learning in individual courses to our knowledge base. The portfolio is a most likely and viable tool to help us achieve better program articulation.

As previously noted, there was a wide range of items included in various categories. In descending order, categories used most frequently were: 1) Growth and development (average 4.6 entries), 2) Application of CAL/LTS (average 3.2 entries), 3) Confirmation of

belief or perspective (average 2.6 entries), 4) Change in belief or perspective (average 2.1 entries), 5) Connections between 368 and other classes/experiences (average 1.8 entries), and 6) SOE Knowledge Base (average .81 entry). A perusal of Appendix I will reveal no discernable evidence that subject area impacted number of entries or types of categories used.

Summary and Discussion

Lessons were learned and refinements made each semester of the portfolio journey. To summarize,

Fall 1992 suggested that:

1) teacher-directed portfolios can result in notebooks and lack of student ownership, and

2) specific purposes and scoring criteria are critical.

Spring 1993 indicated that:

1) clear and precise focus on quality vs. quantity is essential, and

2) creating assessment criteria or rubrics is a complex but meaningful activity.

Summer 1993 revealed that:

1) consistent and frequent emphasis on quality vs. quantity can yield more careful selection of entries,

2) multiple messages to include only items related to or applicable in student's major/minor impacts selection decisions, and

3) introduction of "Portfolio as Process and Product: A Construction Metaphor" helps students better understand a complex process which resulted in better final products.

Fall 1993 reinforced that:

1) a copy of the "construction metaphor" is a valuable reference to guide the process,

2) identifying categories of evidence provides a focus and framework for careful selection of items,

3) clarifying the role of entry slips helps students make and defend their selections,

4) introduction of the "value-added principle" yields true portfolios with fewer but higher quality inclusions,

5) portfolios have much potential to generate excitement about learning and pride in accomplishments, and

6) working through portfolio issues with a colleague provides necessary support and helps identify additional resources.

Others involved in portfolio assessment have recently profferred similar insights. Bird (1990) notes that without a specific purpose a portfolio becomes a hodgepodge of documents. Herman, et al., (1992) reiterate the role of purpose and identify additional elements.

> The "assessment" in portfolio exists only when 1) an assessment purpose is defined; 2) criteria or methods for determining what is put into the portfolios, by whom, and when, are explicated; and 3) criteria for assessing either the collection or individual pieces of work are identified (p. 72).

Furthermore, Barton and Collins (1993) provide this cogent description: "To qualify as a portfolio, each piece of evidence must be collected or created and organized in a compelling manner to demonstrate proficiency in or progress toward a purpose" (p. 203). Although portfolios can be used for many purposes, it is vital that those purposes be made explicit for those engaged in the process.

Still others highlight the impact of portfolios on student learning. Mathies and Uphoff (1992) assert that the process is as important as the product in promoting reflection about the program and professional development. Portfolio assessment also documents growth and development, allows personalized assessment via choice and ownership, requires reflection and encourages self-evaluation, and assists in focused, organized learning (Ohlhausen and Ford, 1990).

As a result of the Fall 1992 - Fall 1993 experience and related readings, I have found the following items to be helpful regarding use of portfolios in teacher education:

1) Clearly identify purpose(s),
2) Involve students in the process (e.g. things to include, assessment criteria, self and peer critique, etc.),
3) Schedule multiple work-in-progress and information sessions,
4) Provide written descriptions, explanations, expectations,
5) Display exemplar portfolios,
6) Link process/product to overall program goals,
7) Conduct exit conferences,
8) Systematically study/monitor purposes and impact on student learning and modify accordingly, and
9) Work with a colleague (if possible) to either initiate and/or refine use of portfolio assessment.

Undoubtedly we have much to learn regarding use of portfolio assessment in teacher education. As noted by Mosenthal, et al., (1993), there is "inherent tension in constructing portfolios at the preservice, undergraduate level because students are at once learners and prospective teachers" as well as "tension between documenting learning and showing expertise" (p. 3). An important role of teacher educators is to mitigate the process/product tensions to help ensure assessment experiences that both inform and demonstrate student understanding.

My most recent experience with portfolio assessment indicates that it is possible to ease these tensions which can result in student empowerment and ownership of the learning process. Hopefully, suggestions offered herein will provide others with either the spark to initiate portfolio assessment or additional considerations to enhance the process. Please share your results. We must support each other to maximize the potential for our students.

## References


Barton, J. & Collins, A. (1993). Portfolios in teacher education. Journal of Teacher Education, 44(3), 200-210.

Belanoff, P. & Dickson, M. (Eds.). (1991). Portfolios: Process and product. Portsmouth, NH: Boynton/Cook.

Bird, T. (1990). The schoolteacher's portfolio: An essay on possibilities. In J. Millman & L. Darling-Hammond (Eds). The new handbook on teacher evaluation (2nd ed). (241-256). Newburg Park, CA: Sago.

Cole, D.J. (1992). The developing professional: Process and product portfolios. Paper presented at the Annual Meeting of the American Association of Colleges for Teacher Education, San Antonio, TX.

Collins, A. (1991). Introduction. Teacher Assessment Project at Stanford University. Teacher Education Quarterly, 18(3), 5-12.

Collins, A. & Dana, T.M. (1993). Using portfolios with middle grades students. Middle School Journal, 25(2), 14-19.

Haertel, E.H. (1990). From expert opinions to reliable scores: Psychometrics for judgement-based teacher assessment. Paper presented at the Annual Meeting of the American Educational Research Association. Boston, MA.

Haertel, E.H. (1991). New forms of teacher assessment. In G. Grant (Ed.), Review of research in education, Vol. 17, (pp. 3-29). Washington, DC: American Educational Research Association.

Herman, J.L., Aschbacher, P.R. & Winters, L. (1992). A practical guide to alternative assessment. Alexandria, VA: Association for Supervision and Curriculum Development.

Lortie, D. (1975). Schoolteacher: A sociological study. Chicago: University of Chicago Press.

Mathies, B. & Uphoff, J.K. (1992). The use of portfolio development in a graduate program. Paper presented at the Annual Meeting of American Association of Colleges for Teacher Education, San Antonio, TX.

Mosenthal J., Daniels, P., & Hull, S. (1993). From the bottom up: The perspective of preservice undergraduates on constructing teacher portfolios. Paper presented at the Annual Meeting of American Educational Research Association, Atlanta, GA.

Ohlhausen, M.M. & Ford, M.P. (1990). Portfolio assessment in teacher education: A tale of two cities. Paper presented at the Annual Meeting of National Reading Conference, Miami, FL.

Perrone, V. (1991). Expanding student assessment. Alexandria, VA: Association for Supervision and Curriculum Development.

Rafferty, C.D. & Fleschner, L. (1993). Concept mapping: A viable alternative to objective and essay exams. Reading Research and Instruction, 32(3), 25-45.

Schon, D.A. (1987). Educating the reflective practioner. San Francisco, CA: Jossey-Bass Inc., Publishers.

Stone, B. (1993). "What I learned this year": Preservice teacher portfolios as a medium for assessment, reflection and professional development. Paper presented at the Annual Meeting of the American Educational Research Association, Atlanta, GA.

Tabachnich, R.B. & Zeichner, K. (Eds.). (1991). Issues and practices in inquiry-oriented teacher education. London: The Falmer Press.

Varvus, L.G. & Collins, A. (1991). Portfolio documentation and assessment center exercises: A marriage made for teacher assessment. Teacher Education Quarterly, 18(3), 13-29.

Wolf, K.P. (1991a). The schoolteacher's portfolio: Issues in design, implementation and evaluation. Phi Delta Kappan, 73, 129-136.

Wolf, K.P. (1991b). Teaching portfolios: Synthesis of research and annotated bibliography. San Francisco, CA: Far West Laboratory.

APPENDIX A

## FORMATIVE ASSESSMENT - MIDTERM PORTFOLIO

Name_____

Day/Time_____

Please indicate items you have included to DEMONSTRATE what you have learned in SDED 368 by checking the first column. I will use the second column for my impressions. The following rating scale might be useful:

+ (This belongs here - I understand why it's included.)
? (I think it should be included but I need to do more with it.)
- (I did not include it because...)

| MINE | RAFF | |
|---|---|---|
| _____ | _____ | 1. SDED 368 Pretests with Reactions/Reflections |
| _____ | _____ | 2. Related Journal articles (Summaries/Reactions) |
| _____ | _____ | 3. Chapter Concept Maps |
| _____ | _____ | 4. Chapter Summaries/Reflective Entries |
| _____ | _____ | 5. Class Notes/Additional Reflections |
| _____ | _____ | 6. Feature Analysis Grid (Chapter 4) |
| _____ | _____ | 7. Chapter 5 Reading/Reaction/Notetaking Guide |
| _____ | _____ | 8. Additional Readability/Text Checklist Activities |
| _____ | _____ | 9. Development of "pretest" of other initial assessment devices for EFE (CARI, student interviews, subject-matter motivation index, etc.) |
| _____ | _____ | 10. Potential Qs for Action Research/Inquiry |
| _____ | _____ | 11. Materials from other classes CLEARLY connected to SDED 368 concepts |
| _____ | _____ | 12. Personal reactions to Chapter 3 presentations and experience |
| _____ | _____ | 13. Self-Analysis/Reflection EFE Handbook pp. 35-37 |
| _____ | _____ | 14. OTHERS (Please describe) |

Please assess your performance with a letter grade (A - F) on the following ORGANIZATION features:

| MINE | RAFF | |
|---|---|---|
| _____ | _____ | 1. Neatly Packaged |
| _____ | _____ | 2. Evinces Time/Energy/Effort (Both in packaging and HOW it is arranged) |
| _____ | _____ | 3. Clear, Logical Organization and Sequence (Table of Contents, Labeled Sections, etc.) |
| _____ | _____ | 4. Planning for future inclusions (e.g. Daily Lesson Plans for EFE, Daily Reflective Log Entries, Materials created to use with EFE student) |

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*Attached to this assessment/analysis please include written responses to the following questions. Word processing will be greatly appreciated!

1. Examine the above assessment. Based on the evidence provided, what GRADE (A - F) would you give yourself at midterm? WHY?

2. How does this portfolio compare/contrast with the one we examined earlier in the semester? To increase your level of satisfaction with your work what else needs to be done?

3. Which things from Chapters 1-5 do you understand most thoroughly? WHY? What suggestions do you have for future class activities that will help you learn more from this course? It is important that I find multiple ways to meet the needs of ALL SDED 368 students - I value your input!

APPENDIX B

**FINAL PORTFOLIO - SDED 368**

**Please include only those items which clearly and precisely DEMONSTRATE YOUR INVOLVEMENT WITH AND UNDERSTANDING OF key ideas/concepts from SDED 368. This DEMONSTRATION may take a variety of forms but most likely will involve reflection, analysis, and self-assessment. It is not expected that all items listed need to be included but point totals for each category should help you identify, prioritize, and allocate your time/resources.**

**Please indicate items included by using the following analysis scale. The first column is for your assessment; the second is for Rafferty. Point totals in parentheses indicate total number possible for each category.**

**+ (This belongs here - I have shown why it is included.)**
**? (I think this belongs but had some trouble relating it to major.)**
**0 (This was not a helpful or relevant assignment for me as student or for my subject area. Therefore, it is not included.)**
**- (I was absent and/or did not complete this task.)**

| MINE | RAFF | |
|---|---|---|
| _____ | _____ | 1. <u>SELF-ASSESSMENT</u> (4) |
| _____ | _____ | Pre/Post Knowledge Attitude Surveys |
| _____ | _____ | Self-analysis/Reflection EFE Handbook |
| _____ | _____ | Portfolio Self-assessments (Sept, Midterm and Final) |
| _____ | _____ | 2. <u>CLASS NOTES, PRESENTATIONS, ASSIGNMENTS</u> (18) |
| _____ | _____ | Class Notes with Reactions/Reflections |
| _____ | _____ | Readability/Text Evaluation/Reflections |
| _____ | _____ | Chapter 5 Notetaking Guide/Notes |
| | | Presentations (Plans, Materials, Reflections) |
| _____ | _____ | Reading Process (Chpt. 3) |
| _____ | _____ | Vocabulary (Chpt. 6) |
| _____ | _____ | Comprehension Across Dimensions of Learning (Chpt. 7) |
| _____ | _____ | Writing/Discussion Strategies - Written Explanations/Reactions (Chpts. 10 & 11) |
| _____ | _____ | Unit Plan (CAL/LTS Before, During, After) |

| | | |
|---|---|---|
| _____ | _____ | 3. **SUMMARY/SYNTHESIS ACTIVITIES** (12) |
| _____ | _____ | Chapter Summaries/Reflective Entries |
| _____ | _____ | Chapter Concept Maps |
| _____ | _____ | Journal Articles from Subject Area/Reflection |
| _____ | _____ | Literacy Defined in Subject Area |
| _____ | _____ | Various Feature Analysis Grids |
| _____ | _____ | 4. **EFE ACTIVITIES** (9) |
| _____ | _____ | Daily Lesson Plans and Materials |
| _____ | _____ | Daily Reflective Journal Entries |
| _____ | _____ | Data Gathered for Action Research |
| _____ | _____ | 5. **MATERIALS FROM OTHER CLASSES** (3) |
| | | PROVIDE EXPLANATION OF HOW THESE INCLUSIONS ARE CONNECTED AND WHY THEY ARE INCLUDED HERE. |
| _____ | _____ | 6. **ORGANIZATION/PRESENTATION** (4) (Time/Energy/Effort; Packaging; Organization/ Arrangement) |

ATTACHED TO THIS ASSESSMENT/ANALYSIS PLEASE INCLUDE THOUGHTFUL AND HONEST RESPONSES TO THE FOLLOWING QUESTIONS. I NEED YOUR INPUT TO CONTINUE TO IMPROVE THE COURSE FOR NEXT SEMESTER. WORD PROCESSING WILL BE GREATLY APPRECIATED!

1. Examine your column of this assessment. Based on the evidence provided, what GRADE (A - F) would you give yourself on this portfolio which represents 50% of your total semester grade? WHY?

2. For many, keeping a portfolio was a new experience. What did you learn about yourself as student and prospective teacher? How does this type of assessment compare/contrast with traditional formats? Which do you prefer and WHY? What suggestions do you have for improving use of portfolios as both "instructional and assessment" tools? From the array of activities included in this portfolio from which did you learn the most - WHY?

THANK YOU FOR YOUR INPUT! AS YOU KNOW I AM CONSTANTLY SEEKING WAYS TO IMPROVE TEACHING AND LEARNING IN MY CLASSES. YOUR PARTICIPATION MAKES A VALUABLE CONTRIBUTION TO THOSE EFFORTS!

APPENDIX C

## ASSESSMENT CRITERIA - CIMT 368

("Not everything that counts can be counted and not everything that can be counted counts." Sign posted on Albert Einstein's office wall.)

| ASSESSMENT | PURPOSE | CRITERIA |
|---|---|---|
| Substantive and meaningful participation (20%) | -Promote critical literacy skills (Reading, Writing, Listening, Speaking, and Thinking)<br>-Flesh out an array of ideas and perspectives<br>-Continue to process concepts<br>-Create a learning community | -Attendance<br>-Regular voluntary responses<br>-Willingness to offer diverse/ divergent/unusual ideas<br>-Connecting ideas to those of text, peers, instructor |
| EFE LOG/ Inquiry Project (20%) | -Promote observation and reflection<br>-Build basic data collection and analysis skills as foundation for future action research activity<br>-Reinforce importance of clear/precise communication (oral/written)<br>-Experience "kid-watching" and rapport-building in indiv/small group setting<br>-Connect observations/findings to major learning theories (e.g. Piaget, Kohlberg, Erickson, etc.) to gain insights into teaching/ learning process | -Follow written guidelines<br>-Quality of data collection and analysis<br>-Soundness of conclusions/insights<br>-Connections to existing research |

| ASSESSMENT | PURPOSE | CRITERIA |
|---|---|---|
| Concept Map (30%) | -Synthesize major concepts<br>-Connect Content Literacy to subject area<br>-Organize, frame, and depict one's understanding<br>-Construct/reconstruct one's understanding<br>-Understand that learning is active/ongoing not passive/static | -Clarity of presentation<br>-Precise "logical connectives"<br>-Time, energy, effort<br>-Comprehensible representation of Content Literacy in subject area (with necessary adaptations) |
| Portfolio (30%) | -Hone organizational skills<br>-Promote self-assessment<br>-Promote reaction/reflection on various readings<br>-Compile materials for future reference<br>-Provide repository for EFE journal, lessons, materials<br>-Promote summary/synthesis activities<br>-Promote connections to major and other Ed. classes<br>-Opportunities to visit and revisit materials read, discussed, created, etc. for meaningful, long-term understanding | -Organization and packaging (Time, energy, effort, ease of location)<br>-Depth/Breadth of items reflecting potential CAL/LTS use in major<br>-Rationale/justification for each item included (e.g. entry slip)<br>-Evidence of necessary/appropriate adaptations of CAL/LTS to subject area |

APPENDIX D

## PORTFOLIO SCORING RUBRIC

To assist you in self-assessing your portfolio for CIMT 368, please refer to the following descriptions/categories. Please talk to me if you need additional information or clarification.

(A) Very comprehensive both in range (quantity) and quality of items included; Thoughtful, well-conceived, organized, and user-friendly format; Descriptive and detailed table of contents; Substantial and consistent evidence of interaction with/understanding of readings (text and handouts); Irrefutable evidence of reaction/reflection to discussions and other class activities; Evidence of subject area journal readings and other attempts to link CIMT 368 to major/minor, etc.

(B+) Comprehensive in either range (quantity) or quality of items included; Well-organized, user-friendly format; Helpful table of contents; Much evidence of interaction with/understanding of readings (text and handouts); Considerable evidence of reaction/reflection to discussions or other class activities; Evidence of subject area journal readings or other attempts to link CIMT 368 to major/minor, etc.

(B) Comprehensive; Organized format; Helpful table of contents; Evidence of interaction with/understanding of text readings; Some reaction to or reflection on class activities; Some linkages between CIMT and major and/or minor, etc.

(C/C+) Fairly comprehensive; Minimal organization/structure; Basic table of contents; Some reaction/reflection to readings, etc.

(D/D+) Minimal inclusions; Lack of organization; Lack of evidence of time, energy, effort, to produce an acceptable portfolio, etc.

APPENDIX E

CIMT 368 - PORTFOLIO SCORING CRITERIA - SUMMER 1993

The following description is intended to assist you in self-assessing your portfolio for CIMT 368. If you need additional information or clarification, please talk to me as soon as possible.

(A) To earn an "A" the portfolio must provide IRREFUTABLE EVIDENCE OF QUALITY IN ALL RESPECTS. In other words, it should be your BEST WORK. Please refer to lists we generated in class and the handout you received about types of things that could be included in your portfolio for this class. Also refer to assessment criteria sheet that explains PURPOSES and general categories of CRITERIA.

The following items provide more detail about structural or organizational features that should help ensure a quality product.

-Introduction and Table of Contents
-Well-conceived format with logical organization
-Justification for items included
-Demonstration of interaction with/understanding of text readings
-Demonstration of interaction with/understanding of handouts/articles
-Reaction/reflection on class discussions/activities (This could be part of learning log/journal with entry dates and titles, etc.)
-Various connections between CIMT 368 and major/minor (e.g. Rating scale for usefulness/potential applicability; sample lesson plans using 368 concepts/strategies; adaptations/modificatons of certain strategies to fit major/minor; related readings from professional journals or conferences, etc.)

Please note that you will be asked to assess your portfolio using these criteria. It will be your responsibility to convince me why you deserve an "A, B+, B, C+" etc.

## PORTFOLIOS AS PROCESS AND PRODUCT: A CONSTRUCTION METAPHOR

For many CIMT 368 students, the types of assessment used will be new. While this can be disconcerting/uncomfortable, it also provides an opportunity for new experiences - experiences that have the potential to help you learn new ways to think about teaching and learning in your future classroom.

Portfolios can be described as both process and product. By that I mean that through the process of learning through a variety of experiences in CIMT 368 you will have the "raw materials" to construct a final product called a portfolio. The major purpose of your final portfolio is to meaningfully display WHAT was learned, HOW it was learned, and current (EFE) and future uses/applications. Via your portfolio you are to demonstrate your "interaction with and understanding of" CIMT 368. Another way to think about your portfolio is that it will document, chronicle, or provide evidence of your level of understanding - it will be a HISTORY of your learning this semester.

It might be helpful to think of constructing a portfolio by comparing it to the building process. Construction usually begins from the ground up and proceeds with various levels or stages. Portfolios are similar. Refer to the attached diagram and follow the number sequence through this explanation.

Portfolio Construction Process/Product

1) FOUNDATION - Just as laying concrete or building blocks will provide a base and strong foundation for future work, so will the fundamentals or foundation-building for CIMT 368. It is essential that you read and mentally digest assigned information. This basic level is also know as "What does it say?" What ideas/concepts are the authors trying to convey?

2) FRAMING/STRUCTURE - After the foundation is in place, a building begins to take shape during framing. The shape and size of a building is determined by its purpose. This level can be referred to as "What does it mean?" because there is room for individual interpretation at this level. Authors use words to convey ideas, but the words actually take shape/have meaning when interpreted by the reader/learner. By reacting to/reflecting upon the readings and discussions, your own ideas will take shape during this stage. Activities to help you achieve this level or stage could be written journal entries, creation of analogies or metaphors, visual representations of what the ideas mean to you, etc.

3) ROOF - The final stage of external preparation usually includes the roof which provides closure and integrity for the structure. A parallel for the portfolio would be "How can I use it?" or what applications can be made to my own teaching? Activities could include planning for EFE (field experience) lessons, items created or modified from other methods classes that include CIMT 368 concepts, etc.

**Building Codes/Quality Issues**

With buildings and portfolios there are construction codes and quality issues. For portfolios, students are usually concerned with what constitutes an "A," "B+," etc. There is a difference between going through the motions or getting it done vs. using your portfolio as a genuine learning opportunity.

The quality of your foundation/structure depends on the quality of reading, reacting, reflecting, listening, discussing, and adapting or modifying techniques for your subject area. Will you use 2 x 4s or 2 x 8s? Will you place studs every 8, 12, or 16 inches? Will you frame the building on concrete slab or cement blocks? In other words, what you put into constructing your understanding will determine the quality of your knowledge structure!

**Using the Process to Complete the Final Product**

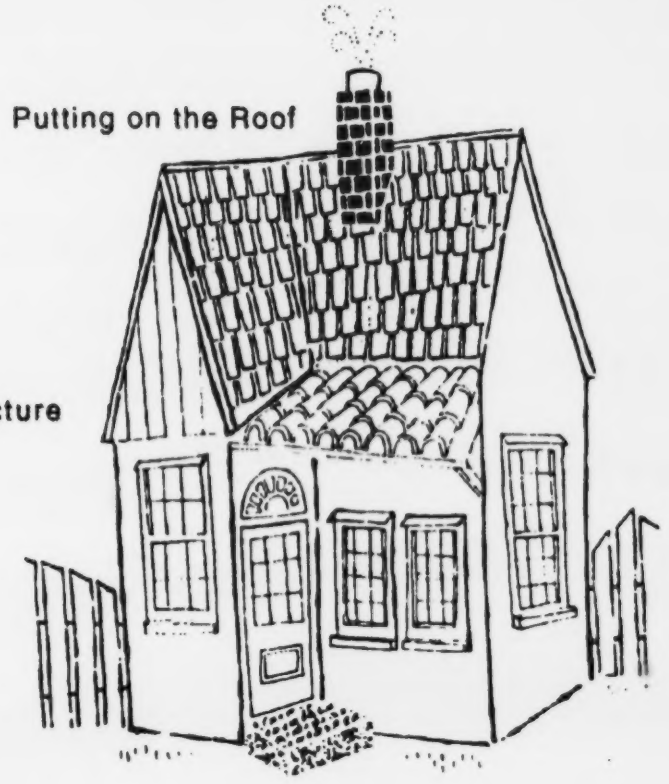
If you have systematically moved from Foundation to Framing to Roof (What does it say? What does it mean? How can I use it?) you should have raw materials for final portfolio construction. As mentioned in the previous section, the quality of your raw materials and ultimately the final product will be determined by what you have done throughout the semester. I will NOT tell you what to include and how to arrange it - it is YOUR portfolio. I do, however, have two structural components that need to be included:

a) Introduction - This section will serve as an overview of the process and product, provide reasons for your selections, their arrangement, and how this activity impacted your learning and understanding. The introduction should provide the reader with a lens through which to view your work.

b) Table of Contents - This feature will lay out the structure and organization to help the reader conceptualize your organization and locate specific sections/items.

# Portfolio as Process and Product:

## A Construction Metaphor




3) How can I use it?

(Applications and Connections)

Adaptations / modifications for use in your subject area

EFE lessons and materials used

Items created / modified from other methods classes that display 386 concepts / strategies, etc.

2) What does it mean?

(Reactions, reflections, analogies, metaphors, visual representations)

1) What does it say?

(Readings, notes, summaries, Text and Handouts)

APPENDIX G

# PORTFOLIOS - THE PROCESS/PRODUCT CONTINUES

(MAKING DECISIONS: WHAT TO INCLUDE, WHY TO INCLUDE IT, AND HOW TO JUSTIFY ITS INCLUSION - CIMT 368)

Earlier this semester you read pages from the Conley text (pp. 369-373) and received handouts (Assessment Criteria - CIMT 368 and Portfolios as Process and Product: A Construction Metaphor). I encourage you to revisit these readings in conjunction with making decisions regarding your portfolio. The ideas contained in the rest of this handout are drawn from: Conley, my colleague Dr. Tom Dickinson, various readings and conversations with others who are experimenting with portfolio assessment, and my own metacognitive analyses based on use of portfolios in CIMT 368 beginning Fall 1992.

A portfolio is a collection of evidence with a purpose. Specific purposes were outlined in earlier handouts cited above, but generally portfolios illustrate what a student knows and is able to do. At the same time, however, portfolios are NOT a repository of every paper, handout, test, homework assignment, journal entry, metacognitive reflection, bulletin board item, etc. that you have done during the semester. In fact, a critical feature of a quality portfolio is that students assume the responsibility to include only certain items that best illustrate their "learning journey."

Portfolios should stimulate reflective dialogue between students and teacher to enable both to reflect upon what skills have been gained, what goals have been reached, and what needs to occur to ensure continued learning. Given the nature of CIMT 368, it seems that you can use portfolios to demonstrate things like the following:

1) ***Growth and Development*** (of what)

2) ***Change in Perspective or Belief*** (Accommodation)

3) ***Application/Modification of CAL/LTS*** (Content Area Literacy/Learning Teaching Strategies)

4) ***Connections Between 368 and Other Classes/Experiences***

5) ***Confirmation/Reinforcement of Existing Belief or Perspective*** (Assimilation)

For each item/category of items included, there should be an "entry slip" or "caption" attached that explains what it is, what it is evidence of, and why it is evidence. In other words, you will justify its inclusion in the portfolio. Rather than a notebook full of everything you have done for CIMT 368, your portfolio is a carefully designed collection of specific items that are included for particular purposes or reasons. To assist you in making crucial selection decisions, I recommend that you ask yourself questions such as the following and then write up an entry slip containing your responses:

-What is this evidence of? (e.g. growth/development; change in belief; application of a particular strategy; etc.)
-How/why/in what ways does this item demonstrate this particular thing?

**CIMT 368 - PORTFOLIO SCORING CRITERIA/DESCRIPTION - FALL 1993**

**The following description is intended to assist you in self-assessing your portfolio for CIMT 368. If you need additional information or clarification, please talk to me as soon as possible.**

**(A) To earn an "A" the portfolio must provide IRREFUTABLE EVIDENCE OF QUALITY IN ALL RESPECTS. In other words, it should be your BEST WORK. Please refer to lists we generated in class and the handout you received about types of things that could be included in your portfolio for this class. Also refer to assessment criteria sheet that explains PURPOSES and general categories of CRITERIA. In addition, reread handouts entitled, "Portfolio as Process and Product: A Construction Metaphor" and "Portfolios - The Process/Product Continues" for further clarifying information. Recent discussions in class revealed a consensus that the primary purpose for the portfolio is for you to demonstrate what you have learned and how this learning will enable you to be a better teacher.**

**The following items provide more detail about structural or organizational features that should help ensure a quality** product.

-Introduction and Table of Contents (Typed/Word-Processed)
-Well-conceived format organized for personal use
-Professionally packaged and presented
-Justification for items included (Typed entry slips that thoroughly answer two important questions and identify items according to following six categories of evidence:
1) Growth and Development (of what), 2) Change in Perspective or Belief (Accommodation), 3) Application/Modification of CAL/LTS, 4) Connections Between 368 and Other Classes or Experiences, 5) Confirmation/Reinforcement of Existing Belief or Perspective (Assimilation), 6) Becoming a Complete Professional (School of Education Knowledge Base).

When we addressed issues of **quantity**, there was overwhelming consensus that specific numbers, minimums or maximums NOT be suggested or imposed. It seems that items selected will depend on the individual, the individual's subject area, and emerging teaching philosophy or style. Likewise, the number of items necessary to provide evidence of what was learned and how is also an individual matter. To paraphrase one written comment, 'Quantity will be determined individually based on what one decides is important and supports his/her subject area. The portfolio should include what each person determines will enhance his/her future teaching.'

Nonetheless, an article in the November 1993 issue of <u>Middle School Journal</u> contains a potentially helpful idea regarding how much evidence to include. It is called the "value-added principle" and works as follows.

> From all the accumulated documents that might be evidence, the student selects the one document that provides the most compelling evidence of having met the purpose of the portfolio. This piece of evidence is set aside. Then a second piece of evidence is chosen and the student asks himself or peers, "What

value will be added to the portfolio if this piece of evidence is included?" The process of adding pieces of evidence is repeated until the answer is "nothing" and the limit of pieces of evidence has been reached.

From experience we have learned a twist to the value-added principle. The first document that is rejected as adding nothing to the portfolio is not the last piece of evidence that should be examined. Students should review (other) documents that are potential evidence to be sure they have not overlooked something compelling. When students make the nothing-new-is-added decision about several pieces of evidence, they feel more confident about the quality of their portfolios (pp. 16-17).

Please note that you will be asked to assess your portfolio using these criteria. During our exit conference the week before final exams it will be your responsibility to explain the type of grade you deserve and why.

APPENDIX I

## FALL 1993 - PORTFOLIO SUMMARY DATA

**Categories of Evidence:**

1) Growth and Development
2) Change in Perspective or Belief
3) Application/Modification of CAL/LTS
4) Connections between 368 and other Classes/Experiences
5) Confirmation/Reinforcement of Existing Belief or Perspective
6) School of Education Knowledge Base

| Major | Category | | | | | | TOTAL ENTRIES | |
|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | | |
| Business | | | | | | | | |
| | 6 | 1 | 2 | 2 | 2 | 0 | 13 | |
| | 0 | 4 | 1 | 5 | 3 | 2 | 15 | (Average 14) |
| Eled. Rdg. | 3 | 2 | 2 | 3 | 4 | 0 | 14 | |
| English | 6 | 3 | 4 | 4 | 1 | 0 | 18 | |
| Indus. Tech. | 4 | 3 | 3 | 2 | 2 | 0 | 14 | |
| | 5 | 1 | 3 | 0 | 1 | 5 | 15 | |
| | 3 | 3 | 6 | 2 | 2 | 0 | 16 | |
| | 3 | 1 | 5 | 5 | 2 | 0 | 16 | (Average 15.2) |
| Math | 6 | 1 | 2 | 2 | 1 | 2 | 15 | |
| | 11 | 2 | 1 | 0 | 2 | 0 | 16 | |
| | 4 | 4 | 3 | 3 | 1 | 0 | 15 | |
| | 1 | 4 | 3 | 1 | 0 | 0 | 9 | |
| | 5 | 3 | 2 | 0 | 2 | 0 | 12 | |
| | 5 | 1 | 2 | 0 | 1 | 3 | 12 | |
| | 4 | 4 | 8 | 2 | 4 | 2 | 24 | |
| | 4 | 0 | 6 | 0 | 1 | 1 | 12 | |
| | 4 | 2 | 6 | 0 | 6 | 0 | 18 | (Average 14.7) |
| Music | 2 | 5 | 0 | 1 | 1 | 0 | 9 | |
| | 4 | 4 | 2 | 2 | 3 | 0 | 15 | (Average 12) |
| Phys. Ed. | 5 | 1 | 0 | 1 | 3 | 0 | 10 | |
| | 6 | 0 | 0 | 1 | 2 | 1 | 10 | |
| | 2 | 2 | 4 | 2 | 2 | 0 | 12 | |
| | 6 | 1 | 2 | 2 | 5 | 8 | 24 | |
| | 4 | 3 | 4 | 3 | 1 | 0 | 15 | (Average 14.2) |
| Science | 13 | 1 | 2 | 2 | 8 | 0 | 26 | |
| Soc. Studies | 5 | 0 | 2 | 3 | 1 | 1 | 12 | |
| | 5 | 3 | 5 | 3 | 2 | 0 | 18 | |
| | 9 | 2 | 0 | 3 | 3 | 0 | 18 | |
| | 3 | 3 | 3 | 1 | 1 | 0 | 11 | |
| | 8 | 5 | 3 | 3 | 3 | 3 | 22 | (Average 16.2) |
| Spanish | 2 | 0 | 5 | 1 | 3 | 0 | 11 | |